

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
Mahendra Madhukar Patil et al.	§	Group Art Unit: 3749
	§	
Serial No.: 10/812,338	§	Examiner: Suereth, Sarah Elizabeth
	§	
Filed: March 29, 2004	§	Confirmation No.: 2694
	§	
For: SYSTEM AND METHOD FOR	§	Atty. Docket: 140320-1/YOD/SIN
MANAGING AIR FROM A	§	GERD:0106
COOKTOP	§	

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF TRANSMISSION OR MAILING 37 C.F.R. 1.8	
I hereby certify that this correspondence is being transmitted by facsimile to the United States Patent and Trademark Office in accordance with 37 C.F.R. § 1.6(d), or is being transmitted via the Office electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4), or is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below:	
May 27, 2008 Date	/Patrick S. Yoder/ Patrick S. Yoder

REPLY BRIEF PURSUANT TO 37 C.F.R. §§ 41.41

Appellants hereby submit this Reply Brief in response to the Examiner's Answer mailed on March 25, 2008, in furtherance to the Appeal Brief electronically filed on February 4, 2008, and in furtherance to the Notice of Appeal mailed July 11, 2007 and received by the Office on July 16, 2007. Appellants note that multiple Appeal Briefs were, in fact, filed in order to comply with Notices of Non-Compliant Appeal Briefs. However, all references herein to the "Appeal Brief" are to the final, compliant Appeal Brief filed on February 4, 2008. In the interest of brevity in this Reply Brief, Appellants respectfully ask that the Board carefully consider the arguments set forth in the previously-filed Appeal Brief.

As discussed in the Appeal Brief, the present application includes four independent claims, namely claims 1, 14, 22, and 35. *See, e.g.*, Appeal Brief, pages 2-5. All of these claims recite, in generally similar language, a sensor for detecting an operating parameter of a cooktop. *See, e.g., id.* The operating parameter may, for instance, be a chemical composition over an active zone of the cooktop. *See, e.g., id.* An air moving device, air flow direction control device, and control circuitry may be used to displace and direct air between exhaust and recirculation paths based on signals from the sensor. *See, e.g., id.*

The first ground of rejection for review in this Appeal is whether the Examiner met the burden of establishing a *prima facie* case that claims 1-7, 14-20, 22-28, and 35-43 under 35 U.S.C. § 103(a) are rendered obvious by Melink (U.S. Patent No. 6,170,480) in view of Bowen (U.S. Patent No. 4,146,016) and further in view of Morton (U.S. Patent No. 6,349,716). *See, e.g., id.*, pages 5-12. The second ground of rejection for review in this Appeal is whether the Examiner met the burden of establishing a *prima facie* case that claims 8, 9, 11-13, 21, 29, 30, and 32-34 under 35 U.S.C. § 103(a) are rendered obvious by Melink in view of Bowen and further in view of Morton and further in view of Wang et al. (U.S. Patent No. 5,236,595, hereinafter “Wang”). *See, e.g., id.*, pages 5, 12. The third ground of rejection for review in this Appeal is whether the Examiner met the burden of establishing a *prima facie* case that claims 10 and 31 under 35 U.S.C. § 103(a) are rendered obvious by Melink in view of Bowen and further in view of Morton and further in view of Wang and further in view of Jensen et al. (U.S. Patent No. 6,521,859, hereinafter “Jensen”). *See, e.g., id.*, pages 5, 13.

In the “Response to Argument” section of the Examiner’s Answer, the Examiner included three main arguments. *See* Examiner’s Answer, pages 9-11. First, the Examiner argued that the independent claims do not require a chemical analyzer. *See id.*, pages 9, 10. Second, the Examiner argued that the rejection of independent claim 22 was proper. *See id.*, page 10. Third, the Examiner argued that the rejection of independent

claim 35 was proper. *See id.*, page 11. Each of these arguments pertains to the first ground of rejection for review in this Appeal. The Examiner did not present additional arguments with respect to the second and third grounds of rejection. *See id.* Each of the Examiner's arguments will be discussed separately below.

The Examiner's argument that independent claims 1, 14, 22, and 35 do not require a chemical analyzer.

In the Appeal Brief, Appellants contended that, even in combination, Melink, Bowen, and Morton do not disclose all of the elements in the independent claims. *See* Appeal Brief, page 8. In particular, Appellants noted that Melink, Bowen, and Morton all fail to disclose controlling an air moving device and an air flow direction control device based upon a sensed *chemical composition*. *See id.*, page 9.

In the Examiner's Answer, the Examiner argued that the independent claims do not require a chemical analyzer. In particular, the Examiner stated:

Appellant appears to argue that the claims require a sensor including some type of a gas analyzer to determine the precise chemical composition of an airflow mixture above a cooktop. Appellant argues that the independent claims are not met by a temperature sensor that triggers an airflow control device (appeal brief page 10, section b). However, this position is inconsistent with the claims and the specification.

Appellant states in the specification "vapors, odors, chemical compositions and so forth will be created or originate from one or more active zones of the cooktop", and "the sensor is configured to receive inputs regarding the characteristics of the air above and adjacent an active zone of the cooktop" (emphasis added, see paragraph 22). The sensed inputs may include a chemical analysis of the mixture (bottom of paragraph 22), or temperature or humidity sensors (paragraph 23).

The independent claims require "a sensor for detecting a chemical composition over an active zone of a cooktop". Appellant has defined the phrase "a chemical composition" to mean cooking fumes, vapors, smoke, and combustion byproducts (appellant's brief, page 9, first full paragraph). The examiner has interpreted this claim limitation to require a sensor that is capable of detecting the presence of cooking vapors. A temperature sensor is capable of performing this limitation, as evidenced by the

dependent claim 3, which further limits the independent claim by acknowledging that the sensor could be a temperature sensor or an electrochemical gas sensor among others.

Although not required by the claims, Melink does disclose using a chemical gas sensor (82) to trigger operation of the ventilation hood (column 7, lines 10-47).

Examiner's Answer, pages 9, 10.

The Examiner argued that a temperature sensor disclosed in Morton anticipates the claim language "a sensor for detecting a chemical composition." First, the Examiner stated that "[t]he sensed inputs *may* include a chemical analysis of the mixture (bottom of paragraph 22), or temperature or humidity sensors (paragraph 23)." *Id.*, page 9 (emphasis in original). Therefore, the Examiner appears to argue that a temperature or humidity sensor would anticipate the claim language "a sensor for detecting a chemical composition" based on these passages in the specification of the present application.

Appellants respectfully point out that these passages merely list three possible types of sensors (*e.g.*, chemical, temperature, and humidity) which may be used to sense an operating parameter of the cooktop. However, independent claims 1 and 14 actually recite only one of these types of sensors, namely a sensor for detecting a *chemical composition*. Therefore, Appellants contend that the plain language in independent claims 1 and 14 does, in fact, require that the sensor be configured to detect a *chemical composition* and, therefore, a temperature sensor would not anticipate the recited claim language.

Next, the Examiner interpreted a "chemical composition" as meaning "cooking fumes, vapors, smoke, and combustion byproducts." *Id.* Further, the Examiner surmised that "a sensor for detecting a chemical composition" requires "a sensor that is capable of detecting the presence of cooking vapors." *Id.* The Examiner went even further stating that "[a] temperature sensor is capable of performing this limitation, as evidenced by the dependent claim 3, which further limits the independent claim by acknowledging that the

sensor could be a temperature sensor or an electrochemical gas sensor among others.”

Id., pages 9, 10.

Appellants respectfully disagree with the Examiner’s contention that a temperature sensor alone may be capable of detecting a *chemical composition*. Appellants contend that a temperature sensor, by its very nature, is only capable of sensing *temperatures*, not *chemical compositions*. For instance, if a temperature sensor were used with a cooktop and a high-intensity light source were placed over an active zone of the cooktop, a high *temperature* could potentially be sensed by the temperature sensor. However, this sensed high temperature would not indicate that a *chemical composition* had been sensed. In fact, in this scenario, using only a temperature sensor would quite probably lead to a “false positive” for the presence of any particular chemical composition. Therefore, a sensor more appropriate for sensing chemical compositions, such as a metal oxide gas sensor, an electrochemical gas sensor, and so forth should be used.

In fact, these are just the types of sensors recited in dependent claim 3, which the Examiner mentioned. However, dependent claim 3 also recites that the sensor may comprise an IR temperature sensor. As discussed above, the Examiner pointed to this claim language to suggest that a temperature sensor would anticipate the claim language of “a sensor for detecting a chemical composition.” However, Appellants respectfully note that the claim language of dependent claim 3 states that “the sensor *comprises at least one of*” the listed types of sensors. Therefore, the claim language suggests that the sensor may *comprise* an IR temperature sensor. The transitional phrases “comprise,” “comprises,” “comprising,” and so forth, do not exclude additional elements. *See, e.g.*, M.P.E.P. § 2111.03. Therefore, according to dependent claim 3, the sensor for detecting a chemical composition may include an IR temperature sensor *in addition to* other sensors. Furthermore, the claim language suggests that the sensor comprises *at least one of* all of the types of sensors listed in dependent claim 3. Therefore, it may be possible to combine, for instance, a metal oxide gas sensor with an IR temperature sensor to obtain a

sensor for detecting a chemical composition. For instance, perhaps the temperature sensor could be used in conjunction with the gas sensor to provide more accurate readings than the gas sensor could by itself. Regardless, it appears clear from the plain language of both independent claim 1 and dependent claim 3 that, contrary to the Examiner's contention, a temperature sensor would not anticipate the claim language of "a sensor for detecting a chemical composition."

Finally, the Examiner attempted to characterize the by-product sensor 82 disclosed in Melink as a "chemical gas sensor." Examiner's Answer, page 10. However, Appellants disagree with the Examiner's characterization of the by-product sensor 82 disclosed in Melink as a "chemical gas sensor." In fact, the by-product sensor 82 disclosed in Melink operates in conjunction with a light emitter 84. *See, e.g.*, Melink, column 7, lines 16-18. The emitter 84 sends a light beam which is detected by a detector 88. *See, e.g., id.*, column 7, lines 18-22. When by-products interrupt the light path at a particular volume, the by-product sensor 82 outputs a signal. *See, e.g., id.*, column 7, lines 22-33. Therefore, the by-product sensor disclosed in Melink cannot reasonably be characterized as a sensor for detecting a *chemical composition*. Rather, the by-product sensor operates more like a volume detector.

For all of these reasons, Appellants respectfully submit that, contrary to the Examiner's contentions, the temperature sensor disclosed in Morton does not anticipate the claim language "a sensor for detecting a chemical composition."

The Examiner's argument that the rejection of independent claim 22 was proper.

In the Appeal Brief, Appellants contended that, even in combination, Melink, Bowen, and Morton do not disclose all of the elements in independent claim 22. *See* Appeal Brief, pages 10, 11. Specifically, Appellants contended that Melink, Bowen, and Morton all fail to disclose that control circuitry is configurable based upon site-specific factors. *See id.*, page 11. In particular, Appellants contended that the interface disclosed in Melink, which includes switches to input control data or select from menu options,

does not qualify as control circuitry configurable based upon site-specific factors, as recited by independent claim 22. *See id.*

In the Examiner's Answer, the Examiner nevertheless argued that the rejection of independent claim 22 was proper. In particular, the Examiner stated:

Claim 22 requires that the controller be "configurable based upon site specific factors". Appellant has erroneously argued claim 22 as if it included the limitations of dependent claim 28, but no separate arguments are presented for either claim 22 or claim 28.

The examiner notes that Melink explicitly discloses configuring the controller to account for the outside temperature (col. 10, lines 48-53), which is regarded as a "site specific factor". Contrary to appellant's arguments, the claim does not require adjusting the controller to consider any of the factors listed.

Regarding claim 28, configuring the controller to include the outside temperature is regarded as customizing the controller based on the "installation location".

Additionally, the examiner notes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to make an oven hood in a particular size to fit in a particular installation location.

Examiner's Answer, page 10.

Appellants disagree with the Examiner's statement that Appellants argue that independent claim 22 includes limitations of dependent claim 28. Rather, Appellants merely provided context for which the claim language "control circuitry [] configurable based upon site-specific factors" should be read. In particular, the site-specific factors may include, *according to claim 28*, at least one of hood width, site dimensions, installation location, height above the cooktop and type of fuel. *See, e.g.*, Application, paragraphs 21, 40, and 41; FIG. 5. As such, Appellants contend that Melink does not disclose control circuitry configurable based upon a *site-specific* factor.

The Examiner's argument that the rejection of independent claim 35 was proper.

In the Appeal Brief, Appellants contended that, even in combination, Melink, Bowen, and Morton do not disclose all of the elements in independent claim 35. *See* Appeal Brief, pages 11, 12. In particular, Appellants contended that Melink, Bowen, and Morton all fail to disclose regulating operation of an air displacement system based upon signals from a sensor and upon characteristics of the air displacement system to reduce acoustic noise of the ventilation system, as recited by independent claim 35. *See id.*

In the Examiner's Answer, the Examiner argued that the rejection of independent claim 35 was proper. In particular, the Examiner stated:

Regarding claim 35, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The Melink controller controls the speed of the fan, which obviously affects the amount of noise produced by the fan. There is no claimed structural difference between appellant's controller and the Melink controller, and both operate in the same manner to control the speed of the fan based on a sensed input. Varying the level of noise produced by the fan will inherently occur as the fan speed is varied.

Examiner's Answer, page 11.

Appellants disagree with the Examiner's contention that Melink discloses a system capable of reducing acoustic noise of the ventilation system. Rather, Melink merely discloses that the volume rate of exhaust may be increased or decreased to avoid sudden unsettling *variations* in noise or air flow. *See, e.g.*, Melink, column 3, lines 21-29. Melink does not, however, disclose regulating operation based on the noise level itself. Furthermore, the fact that the specification of the present application and Melink both disclose systems which may grow quieter with variations in fan speed has no bearing on the issue, contrary to the Examiner's contention. Rather, the issue is that claim 35 recites a ventilation system using control circuitry capable of regulating an air

displacement system to reduce acoustic noise of the ventilation system whereas Melink only discloses, at most, reducing *variations* in noise.

Conclusion

Appellants respectfully submit that all pending claims are in condition for allowance and urge the Board to reverse the outstanding rejections.

Respectfully submitted,

Date: May 27, 2008

/Patrick S. Yoder/

Patrick S. Yoder

Reg. No. 37,479

FLETCHER YODER

P.O. Box 692289

Houston, TX 77269-2289

(281) 970-4545